(REV 12-29-99)					
TR.	TRANSMITTAL LET ER TO THE UNITED STATES T2154-90632				
	DESIGNATED/ELECTED OFFICE (DO/EO/US)  US APPLICATION NO. (If known, see 37 CFR 1.5)				
C	CONCERNING A FILIN	NG UNDER 35 U.S.C. 371			
	ΠΟΝΑL APPLICATION NO.	INTERNATIONAL FILING DATE	PRIORITY DATE CLAIMED		
PCT/	PCT/FR 99/01047 03 May 1999(03.05.99) 22 May 1998(22.05.98)				
TITLE OI OBJECT	TITLE OF INVENTION METHOD FOR ALTERNATING THE STACKING DIRECTION OF FLAT AND FLEXIBLE OBJECTS, MEANS FOR IMPLEMENTING SAID METHOD AND BATCH-FORMING INSTALLATIONS EQUIPPED WITH				
APPLICANT(S) FOR DO/EO/US SAID MEANS					
REMERICO, MAURICE					
	licant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:				
	This is a FIRST submission of items concerning a filing under 35 U.S.C. 371.				
	This is a SECOND or SUBSEQUENT submission of items concerning a filing under 35 U.S.C. 371.  This express request to begin national examination procedures (35 U.S.C. 371(f)) at any time rather than delay				
3. X	examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b) and PCT Articles 22 and 39(1).				
<u> </u>	• •		онан поин те сагнем ставтей риогиу date.		
5	A copy of the International Application as filed (35 U.S.C. 371(c)(2))				
	a. is transmitted herewith (required only if not transmitted by the International Bureau). b. XX has been transmitted by the International Bureau.				
		pplication was filed in the United States Rece	iving Office (RO/US).		
6. X	<del>-</del>	al Application into English (35 U.S.C. 371(c)(			
7.	Amendments to the claims of th	e International Application under PCT Article	e 19 (35 U.S.C. 371(c)(3))		
	a. are transmitted herewith	n (required only if not transmitted by the Inter	rnational Bureau).		
		by the International Bureau.			
		owever, the time limit for making such amend	ments has NOT expired.		
· —	d. have not been made an		2 2 1 ( \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		
8. 📙		s to the claims under PCT Article 19 (35 U.S.	C. 371(c)(3)).		
9.	An oath or declaration of the in				
10.	A translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).				
Items 11. to 16. below concern document(s) or information included:					
11. 🔲	An Information Disclosure Statement under 37 CFR 1.97 and 1.98.				
12.	An assignment document for rec	cording. A separate cover sheet in compliance	e with 37 CFR 3.28 and 3.31 is included.		
13. X	A FIRST preliminary amendment.				
	A SECOND or SUBSEQUENT	preliminary amendment.	•		
14.	A substitute specification.				
15.	A change of power of attorney a	and/or address letter.			
16. XX	Other items or information:		· •		
Correspondence Address and Notice of Filing Without Declaration					

.

17 XX The follo	owing fees are subn d:		that is that and	CALCULATIONS	PTO USE ONLY
	AL FEE ( 37 CFR 1.492 (a)	(1) - (5) ) :	·	_	
Neither interns	ational preliminary examina	ation fee (37 CFR 1.482)		1	
	nal search fee (37 CFR 1.44				
and Internation	nal Search Report not preparation	ared by the EPO or IPO · · · · ·	\$970.00		
4 F		e (37 CFR 1.482) not paid to			
USPTO but In	ternational Search Report p	orepared by the EPO or JPO			
	oreliminary examination fee search fee (37 CFR 1.445(a	(37 CFR 1.482) not paid to USP (2)) paid to USPTO	TO but <b>\$690.00</b>		
		e paid to USPTO (37 CFR 1.48) of PCT Article 33(1)-(4)			
		e paid to USPTO (37 CFR 1.48. Γ Article 33(1)-(4)			
	ENTER APPROF	PRIATE BASIC FEE AM	IOUNT =	\$ 970.00	
	.00 for furnishing the oath earliest claimed priority dat		O*- >- <b>XX</b> 30	\$ 130.00	
CLAIMS	NUMBER FILED	NUMBER EXTRA	. RATE		
Total claims		TOMBER EXITE	X \$18.00	\$	
	11 - 20 =				
Independent claims	1 -3 =	<u> </u>	· X \$78.00	\$	
MULTIPLE DEPE	ENDENT CLAIM(S) (if applications of the control of	able)	+ \$260.0	\$	
	TOTAL	OF ABOVE CALCULAT	TIONS =	\$1,100.00	
	for filing by small entity, if I (Note 37 CFR 1.9, 1.27, 1.	applicable. A Small Entity Stat 28).	ement <sub>a</sub> - §	\$	
		SUBT	OTAL =	\$1,100.00	
D	0130 00 for formishing the				
months from the	earliest claimed priority dat	English translation later than the (37 CFR 1.492(f)).	+_	\$ 	
		TOTAL NATION		\$1,100.00	
		37 CFR 1.21(h)). The assignment (37 CFR 3.28, 3.31). \$40.00 per		\$	
		TOTAL FEES ENC	LOSED =	\$1,100.00	
				Amount to be	\$
				refunded:	
					1 (
		100.00	C	charged:	\$
b. Please of A duplic	charge my Deposit Account cate copy of this sheet is en	No in the closed.  orized to charge any additional for some supplies the control of the	amount of \$	dto co	ver the above fees.
b. Please of A duplic c. The Cooverpay  NOTE: Wher 1.137(a) or (b)  SEND ALL CORRE Dennis P. Miles & St. 1751 Pinna McLean, VA Telephone:	charge my Deposit Account cate copy of this sheet is en mmissioner is hereby authorment to Deposit Account in the an appropriate time limit in must be filed and granted spondence to Clarke ockbridge P.C. cle Drive, Suite 50 22102-3833 (703) 903.9000	No in the closed.  orized to charge any additional foliations in the closed.  No in the closed.  A duplicate contact in the closed in	amount of \$ees which may be the copy of this shows the pending status    Signatus	to co te required, or credit teet is enclosed.  met, a petition to re.	ver the above fees.
b. Please of A duplic c. The Cooverpay  NOTE: Where 1.137(a) or (b)  SENDALL CORRED Dennis P. Miles & St. 1751 Pinna McLean, VA	charge my Deposit Account cate copy of this sheet is en mmissioner is hereby authorment to Deposit Account in the an appropriate time limit in must be filed and granted spondence to Clarke ockbridge P.C. cle Drive, Suite 50 22102-3833 (703) 903.9000	No in the closed.  orized to charge any additional foliations in the closed.  No in the closed.  A duplicate contact in the closed in	amount of \$ees which may be copy of this shows the copy of the copy	to concerequired, or credit neet is enclosed.  met, a petition to reconcere.  URE:	ver the above fees.

# JC10 Rec'd PCT/PTO 2 8 DEC 2001

# 9

Docket: T2154-906320

#### IN THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US)

Applicant:

Maurice REMERICO

International

Application No.

PCT/FR99/01047

International

Filing Date:

03 May 1999 (03.05.99)

0 9 JAN 2002

RECEIVED

Legal Starf International Division

U.S. Serial No.:

09/463,294

U.S. Filing Date:

24 January 2000 (24.01.00)

For:

METHOD FOR ALTERNATING THE STACKING DIRECTION OF FLAT AND

FLEXIBLE OBJECTS, MEANS FOR IMPLEMENTING SAID METHOD AND BATCH-

FORMING INSTALLATIONS EQUIPPED WITH SAID MEANS

# RENEWED REQUEST FOR RECONSIDERATION OF NOTIFICATION OF ABANDONMENT

Hon. Commissioner of Patents & Trademarks Washington, D.C. 20231

Sir:

Applicant respectfully requests [MPEP, §711.03] reconsideration of the "DECISION ON PETITION" DATED November 8, 2001 and again requests that the Notification of Abandonment dated July 3, 2001 be withdrawn and the application reinstated as properly pending before the U.S. Patent & Trademark Office.

#### The DECISION states:

"---This application became abandoned based on applicant's failure to file the English translation of the international application (and related processing fee) in response to the Notification Of Missing Requirements mailed 10 April 2000 and the Notification Of A Defective Response and Notification Of A Defective Translation mailed 31 May 2000. The present submission does not include a copy of the missing English translation of the international application, nor does it provide any evidence that the translation was previously filed (i.e., a stamped return postcard itemizing the English translation). Absent the submission by applicant of a copy of the English translation and evidence that such translation was in fact filed on 24 January 2000, the present holding of

abandonment remains appropriate.---Applicant must provide an English translation of the international application and either: (1) evidence that this translation was filed by applicant, as claimed, on 24 January 2000; or (2) a grantable petition to revive the international application.

The undersigned attorney for applicant herein confirms that the indicated translation was indeed filed on January 24, 2000; however, it was included as part of a package of papers entitled, (1) TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 U.S.C. 371, (2) PRELIMINARY AMENDMENT and (3) CORRESPONDENCE ADDRESS AND NOTICE OF FILING WITHOUT DECLARATION.

In paper (1), the box marked "A translation of the International Application into English (35 U.S.C. 371(c)(2)) was clearly checked.

The translation was included in the package after paper (3). It is believed that an inspection of the official file will reveal that the translation is, indeed, present as part of that package of papers filed on January 24, 2000 immediately behind or after the above-identified paper (3). In any event, the fact that the appropriate box in paper (1) was checked is prima facie evidence that the translation was filed. It is not inconceivable that the translation became detached from the above package of papers or otherwise misplaced in the USPTO.

A further copy of the translation is enclosed herewith. Accordingly, please withdraw the abandonment of the application and reinstate the application on the active docket.

Respectfully submitted,

MILES & STOCKBRIDGE

Dennis P. Clarke Reg. No. 22,549

Filed: December 28, 2001

1751 Pinnacle Drive Suite 500 McLean, Virginia 22102-3833 Telephone: (703) 903-9000 Facsimile: (703) 610-8686

E-mail: dclarke@milesstockbridge.com

# 0946329463294

## 428 Rec'd PCT/PTO 2 4 JAN 2000

Docket No. T2154-906320

#### IN THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US)

**Applicant** 

MAURICE REMERICQ

International

Application No.

PCT/FR 99/01047

International

Filing Date

03 May 1999 (03.05.99)

For

METHOD FOR ALTERNATING THE STACKING DIRECTION OF FLAT AND FLEXIBLE OBJECTS, MEANS FOR IMPLEMENTING SAID METHOD AND BATCH-FORMING INSTALLATIONS

**EQUIPPED WITH SAID MEANS** 

U.S. Serial No.

U.S. Filing Date

24 January 2000 (24.01.00)

#### **PRELIMINARY AMENDMENT**

Hon. Commissioner of Patents & Trademarks Washington, D.C. 20231

Sir:

Prior to an examination on the merits of the above-captioned application, please amend the same as follows:

#### **IN THE CLAIMS**:

Claim 3, line 1: delete "or 2"

Claim 4, line 1: delete "any one of claims 1 to 3" and insert - - claim 1 - -

Claim 5, line 1: delete "any one of claims 1 to 4" and insert - - claim 1 - -

Claim 6, lines 1-2: delete "any one of claims 1 to 5" and insert - - claim 1 - -

Claim 11, line 3: delete "any one of claims 6 to 10" and insert - - claim 6 - -.

#### **REMARKS**

Entry of the foregoing amendments prior to an examination on the merits of the above-captioned application is respectfully requested.

The foregoing amendments merely correct the improper multiple dependent claim format and reduce the concomitant filing fees therefor.

If any additional fees are required, please charge the same to Deposit Account No. 50-1165.

Respectfully submitted,

MILES & STOCKBRIDGE, P.C.

Dennis P. Clarke

Registration No. 22,549

DPC:lef

1751 Pinnacle Drive Suite 500 McLean, VA 22102-3833

Telephone:

(703) 903.9000

Facsimile:

(703) 610.8686



1

A METHOD OF ALTERNATING THE STACKING DIRECTION OF OBJECTS THAT ARE FLAT AND FLEXIBLE, MEANS FOR IMPLEMENTING THE METHOD, AND AN INSTALLATION FOR MAKING UP BATCHES AND FITTED WITH SUCH MEANS

5 The invention relates to a method of alternating the stacking direction of flat and flexible objects which are to be stacked in order to make up a batch ready for packaging.

The invention also relates to means for implementing the method and to installations for making up batches and fitted with such means.

10

15

20

25

The invention relates particularly but not exclusively to a method used in an industrial installation for making up batches of flat objects and operating at high speed.

Although not limiting, the term "installation operating at high speed" is used to mean an installation which operates at a throughput of treated objects in excess of several hundred objects per minute.

By way of example, the flat objects can be products that are flexible and deformable in the thickness direction, such as hygiene products made of absorbent material.

In such batches, the flat objects are placed substantially parallel to one another, one against another, in particular so as to be ready for placing in a box or bag that encloses a volume that is substantially in the form of a rectangular parallelepiped, and that is as small as possible in size.

When such hygiene products are folded over prior to being packaged, whether they are folded in two or in three, they present extra thickness, at least in the vicinity of a fold.

The extra thicknesses of the various items in a

35 batch accumulate, thereby giving rise to batches being
formed having two opposite faces that lie in intersecting
planes.

In other words, the made-up batches are wedge-shaped.

Such a wedge shape is detrimental to the packing of such batches in a small volume.

The extra thickness phenomenon becomes worse when, firstly the products have a profile in the thickness direction so as to present relatively thin edges, and secondly they incorporate so-called "superabsorbent" substances which are concentrated in a zone containing a fold.

An effective solution to this problem of building up batches that are wedge-shaped consists in alternating the stacking direction of the items.

However, technically speaking, that solution is difficult to implement.

10

15

20

25

3.0

35

The above-mentioned hygiene products are manufactured at throughputs greater than several hundred items per minute, so the speed of which they leave the machine manufacturing them is therefore high.

This speed is so high that in order to make up batches having a determined number of items, it is necessary for the items initially to be braked and received on a device within which they are disposed substantially parallel to one another so that batches can subsequently be extracted therefrom.

The invention relates specifically to a method suitable for alternating the items without repercussions on their method of manufacture.

The invention also relates to installations for making up batches and fitted with such means.

A result that the invention seeks to achieve is a method of alternating items that can be implemented without repercussions on the operation of an existing installation, and without requiring substantial modification of that installation.

To this end, the invention provides a method of alternating the stacking direction of flexible flat

objects which are to be stacked in order to constitute batches ready for packaging, the method being characterized in particular in that in order to make up sets of items suitable for constituting batches of items in which at least two items are placed head-to-tail, the following operations are performed during travel of the compartments past the loading station, downstream from said station:

- at a determined "extraction" site, at least one
   item is extracted from a compartment in which it has been placed; and
  - · the orientation of each extracted item is changed so that it can be placed in a determined empty compartment head-to-tail relative to its initial insertion direction in the loading station; and
  - at a determined "reinsertion" station said
     reoriented item is inserted into an empty compartment.

15

20

25

The invention will be well understood on reading the following description given by way of non-limiting example and made with reference to the accompanying drawings, in which:

- · Figure 1 is a plan view of an installation implementing a device for making up batches each comprising a determined number of items coming successively from a production machine;
- · Figures 2 and 3 are on a larger scale and show a detail of how means are embodied for implementing the method; and
  - · Figure 4 is a section view on AA of Figure 2.
- With reference to the drawings, there can be seen an installation 1 for making up batches 2 each comprising a determined number of items 3 coming in succession from a production machine 4.

This installation 1 for making up batches 2 serves

to receive the items 3 as they are produced and to place
them side by side and substantially parallel to one
another so that they can make up said batches 2.

To this end, the installation 1 comprises a plurality of compartments 1A supported by an element 1B for moving them between at least two stations 1C and 1D comprising firstly a loading station 1C in which said compartments 1A are loaded in succession with items 3 delivered in a determined insertion direction S1, and secondly a station 1D for unloading at least one set E of items ready to make up a batch 2.

5

10

15

25

35

By way of example, the installation 1 comprises an endless element 1B which circulates over deflector members and which carries partitions 1E disposed in such a manner as to constitute compartments 1A suitable for receiving the items.

Characteristically, in order to make up sets E of items suitable for constituting batches 2 of items 3 in which at least two items 3 are disposed head-to-tail, the following operations are performed while the compartments 1A travel past the loading station 1C, downstream from this station 1C:

- at a determined "extraction" site A, at least one item 3 is extracted from a compartment 1A in which it has been placed; and
  - · the orientation of each extracted item 3 is changed so that it can be placed in a determined empty compartment 1A head-to-tail relative to its initial insertion direction S1 in the loading station 1C; and
  - at a determined "reinsertion" site B, said
     reoriented item 3 is inserted into an empty compartment
     1A.
- It is in this way that the method of the invention makes it possible to alternate the stacking direction of at least some of the items.

In Figure 1, the direction in which some of the items are oriented is represented by means of arrows referenced S1 and S2.

The arrows S1 and S2 are placed beside the items to show their relative orientation, i.e. how they are oriented relative to one another.

Orientation direction S1 corresponds to the insertion direction, but that is not limiting.

5

10

15

20

25

The direction S2 of an item referenced R is opposite to the direction S1 of an item referenced 3.

The item referenced 3R is an item that has been turned round, while the item 3 is an item whose orientation has not been changed.

The items referenced 3R and 3 are therefore disposed head-to-tail.

Also in characteristic manner, the items 3 are extracted and reinserted in succession, i.e. one by one.

Specifically, each item 3 is reinserted into a compartment 1A which, relative to the travel direction, is situated downstream from the compartment 1A from which the item was extracted.

For example, as shown, every other item 3 is extracted and then reinserted.

Also specifically, to turn around each item 3 extracted from a compartment 1A, it is caused to follow a curved path T1 lying in a plane P1 approximately parallel to a plane P2 containing the path T2 around which the compartments 1A travel between the extraction site A and the site B for reinsertion into a compartment 1A.

Preferably, a device 1R comprises means M1, M2, and M3 for implementing the method, said means consisting in:

extraction means M1 for extracting at least one
 item 3 from compartments 1A at a determined "extraction site" A; and

· orientation-changing means M2 for changing the orientation of each extracted item 3 so that it can be placed in a determined compartment 1A head-to-tail

35 relative to its initial insertion direction; and

- · insertion means M3 for inserting said reoriented item 3 in an empty compartment 1A at a likewise determined "reinsertion" site B; together with
- · control means M4 for controlling the operation of the above-specified means M1, M2, and M3 synchronously with the device 1 for making up batches 2.

The extraction means M1 consists in means M1 for extracting items 3 one by one.

10

15

20

25

30

35

The extraction means M1 comprises a drive-and-guide element 11 for driving and guiding at least one extractor stop 12 over an "accompanying" path, i.e. a path T3 which intersects the path T2 of the compartments 1A in a plane onto which the paths are projected, said accompanying path being oriented in such a manner that each extractor stop 12 that comes into contact with an item 3 pushes it out from its compartment 1A at the extraction site A and continues to do so at least until said item 3 has been engaged in the orientation-changing means M2.

The orientation-changing means M2 for changing the orientation of each extracted item 3, i.e. the means M2 for turning end-for-end each item 3 extracted from a compartment 1A, consists in means M2 for guiding the item 3 over a curved path T1 situated in a plane that is approximately parallel to the plane containing the travel path T2 of the compartments 1A between the extraction site A and the site B for reinsertion into a compartment 1A.

The means M2 is disposed to receive each item 3 extracted from a compartment 1A by the means M1 provided for this purpose.

The insertion means M3 for inserting each item 3 one by one into an empty compartment 1A is constituted by means M3 for moving each item 3 along a path T4 which intersects the path followed by the compartments 1A in a plane onto which the paths are projected, and which is oriented in such a manner that each item 3 is pushed into

a compartment 1A, and is pushed at least until said item 3 has been fully engaged in said compartment 1A.

The means M4 for controlling the operation of the above-mentioned means M1, M2, and M3 so that they operate synchronously relies on conventional elements for managing the operation of electric motor means, and it is not described in greater detail.

5

10

15

20

25

The orientation-changing means M2 for changing the orientation of each item 3 as extracted from a compartment 1A essentially comprises a set of two belts C1 and C2 which, driven by motor means (not shown) travel over deflector members R1 to R9 and present two adjacent strands B1 and B2, which strands B1 and B2 define means both for gripping an item 3 across its thickness and for moving the item 3 over a substantially curved path T1, said adjacent strands B1 and B2 for this purpose:

- · firstly each extending between the site A for extracting an item 3 from a compartment 1A and site B for reinserting said item 3 into a compartment 1A; and
- · secondly being situated in a plane that is approximately parallel to a plane containing the travel path T2 of the compartments 1A, between said extraction and reinsertion sites A and B.

Advantageously, the orientation-changing means M2 includes a deflector member R1 of diameter D such that a major fraction of its circumference defines a curved path T1 that is tangentially connected to the paths T3 and T4 for extracting and reinserting the items 3.

The orientation-changing means M2 has deflector

members R2 and R3 which are disposed so as to deflect and space apart the belts C1 and C2 approximately into a plane substantially tangential to the compartments, thereby constituting at least part of the insertion means M3 for inserting each item 3 one by one into an empty compartment 1A.

8

In the various figures, unreferenced arrows symbolize the directions in which the main members rotate or move.

od Noor Noor

era kulomini di distang ka Mangrapakan mengangan

٠.

#### CLAIMS

5

10

15

20

25

30

35

1/ A method of alternating the stacking direction (3) of flat and flexible objects which are received as they are produced by a device (1) which places them side by side substantially parallel to one another, so as to enable them to constitute batches (2), said device (1) comprising a plurality of compartments (1A) supported by an element (1B) for moving the compartments between at least two stations (1C, 1D), comprising firstly a station (1C) for loading said compartments (1A) with items (3) delivered in succession in a determined insertion direction (S1), and secondly a station (1D) for unloading at least one set (E) of items ready to constitute a batch (2),

the method being characterized in that in order to make up sets (E) of items suitable for constituting batches (2) of items (3) in which at least two items (3) are placed head-to-tail, the following operations are performed during travel of the compartments (1A) past the loading station (1C), downstream from said station (1C):

· at a determined "extraction" site (A), at least one item (3) is extracted from a compartment (1A) in which it has been placed; and

 the orientation of each extracted item (3) is changed so that it can be placed in a determined empty compartment (1A) head-to-tail relative to its initial insertion direction (S1) in the loading station (1C); and

 at a determined "reinsertion" station (B) said reoriented item (3) is inserted into an empty compartment (1A).

2/ A method according to claim 1, characterized in that the items (3) are extracted and then reinserted in succession, i.e. they are acted on one by one.

3/ A method according to claim 1 or 2, characterized in that each item 53) is reinserted into a compartment (1A)

which, relative to the travel direction, is situated downstream from the compartment (1A) from which the extraction has been performed.

4/ A method according to any one of claims 1 to 3, 5 characterized in that in order to turn each item (3) extracted from a compartment (1A) end-for-end, it is caused to follow a curved path (T1) situated in a plane (P1) approximately parallel to a plane (P2) containing the travel path (T2) of the compartments (1A) between the extraction site (A) and the site (B) for reinsertion into a compartment (1A).

Ty-12-6

15

20

25

Sant Francis -

5/ A method according to any one of claims 1 to 4, characterized in that the means comprise:

- · extraction means (M1) for extracting at least one item (3) from the compartments (1A) at a determined "extraction" site (A); and
- · orientation-changing means (M2) for changing the orientation of each extracted item (3) so that it can be placed in a determined compartment (1A) head-to-tail relative to its initial insertion direction; and
- · insertion means (M3) for inserting said reoriented item (3) in an empty compartment (1A) at a likewise determined "reinsertion" site (B); together with
- · control means (M4) for controlling the operation of the above-specified means (M1, M2, M3) synchronously with the device (1) for making up batches (2).
- 6/ Means for implementing the method according to any one 30 of claims 1 to 5, characterized in that the extraction means (M1) comprises a drive-and-guide element (11) for driving and guiding at least one extractor stop (12) over an "accompanying" path, i.e. a path (T3) which intersects the path (T2) of the compartments (1A) in a plane onto 35 which the paths are projected, said accompanying path being oriented in such a manner that each extractor stop

(12) that comes into contact with an item (3) pushes it out from its compartment (1A) at the extraction site (A), and continues to do so at least until said item (3) has been engaged in the orientation-changing means (M2).

7/ Means according to claim 6, characterized in that the orientation-changing means (M2) for changing the orientation of each extracted item (3), i.e. the means (M2) for turning end-for-end each item (3) extracted from a compartment (1A), consists in means (M2) for guiding the item (3) over a curved path (T1) situated in a plane that is approximately parallel to a plane containing the travel path (T2) of the compartments (1A) between the extraction site (A) and the site (B) for reinsertion into a compartment (1A).

8/ Means according to claim 6, characterized in that the insertion means (M3) for inserting each item (3) one by one into an empty compartment (1A) is constituted by means (M3) for displacing each item (3) along a path (T4) which intersects the path of the compartments (1A) in a plane onto which the paths are projected, and which is oriented in such a manner that each item (3) is pushed into a compartment (1A), and is pushed at least until said item (3) has been fully engaged in said compartment (1A).

9/ Means according to claim 6, characterized in that the orientation-changing means (M2) for changing the orientation of each item (3) extracted from a compartment (1A) essentially comprises a set of two belts (C1, C2) which, driven by motor means (R1) travel over deflector members (R1 to R9) and present two adjacent strands (B1, B2), which strands (B1, B2) define means both for gripping an item (3) across its thickness and for moving said item (3) over a path (T1) that is substantially curved, said adjacent strands (B1, B2) for this purpose:

- · firstly each extending between the site (A) for extracting an item (3) from a compartment (1A) and the site (B) for reinserting said item (3) in a compartment (1A); and
- secondly being situated in a plane that is approximately parallel to a plane containing the travel path (T2) of the compartments (1A) between said extraction and reinsertion sites (A, B).

V 2000 1

The state

Min Hill

15

- 10 10/ Means according to claim 9, characterized in that the orientation-changing means (M2) comprises:
  - · firstly a deflector member (R1) of diameter (D) such that over a substantial fraction of its circumference it defines a curved path (T1) that is tangentially connected to the extraction and insertion paths (T3, T4) for the items (3); and
- · secondly deflector members (R2, R3) which are disposed in such a manner as to deflect and space apart the belts (C1, C2) approximately into a plane that is substantially tangential to the compartments, thereby constituting at least in part the insertion means (M3) for inserting each item (3) one by one into an empty compartment (1A).
- 25 11/ An installation for making up batches of objects, the installation being characterized in that it comprises means according to any one of claims 6 to 10.

13

#### ABSTRACT

A METHOD OF ALTERNATING THE STACKING DIRECTION OF OBJECTS THAT ARE FLAT AND FLEXIBLE, MEANS FOR IMPLEMENTING THE METHOD, AND AN INSTALLATION FOR MAKING UP BATCHES AND FITTED WITH SUCH MEANS

The invention relates to a method of alternating the stacking direction (3) of flat objects which are received 10 and disposed parallel to one another by a device (1) so as to enable them to make up batches (2), said device (1) comprising a plurality of compartments. The method is characterized in that in order to make up sets of items suitable for making up batches (2) of items (3) in which 15 at least two items (3) are placed head-to-tail, the following operations are performed while the compartments travel past the loading station (1C):

- $\cdot$  an item (3) is extracted from a compartment (1A); and
- the orientation of the extracted item (3) is modified so that it can be placed head-to-tail relative to its initial insertion direction (S1) in a determined empty compartment; and
- at a determined reinsertion site, said reoriented
   item (3) is inserted into an empty compartment.

30

Translation of the title and the abstract as they were when originally filed by the Applicant. No account has been taken of any changes that may have been made subsequently by the PCT Authorities acting ex officio, e.g. under PCT Rules 37.2, 38.2, and/or 48.3.

# Declaration and Power of Attorney For Patent Application Declaration Pour Demandes de Brevets Avec Pouvoirs

## French Language Declaration

En tant qu' inventeur nomme ci-après, Je déclare par le présent acte que:	As a below named inventor, I hereby declare that:
Mon nom, mon domicile, mon adresse postale, ma nationalité sont ceux qui figurent ci-après,	My residence, post office address and citizenship are as stated below next to my name,
Je déclare que je crois être l'inventeur original, premier et unique (si un seul nom figure sur le présent acte) ou un des co-inventeurs, originaux et premiers (si plusieurs noms figurent sur le present acte) du sujet revendiqué et pour liquel un brevet est demande sur la base de l'invention intitulée:	I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled
Procédé pour alterner le sens	
d'empilage d'objets plats et soupl	es,
moyens pour la mise en oeuvre du p constitution de lots équipés de 'ces dont la description (cocher la case correspondante)	procédé et installation de movens the specification of which (check one)
est annexée au présent acte.	is attached hereto.
a été déposée	was filed on as
Numéro de série de la demande	Application Serial No.
et modifiée le(si approprié)	and was amended on(if applicable)
Je déclare par le présent acte avoir examiné et compris le contenu de la description identifiée ci-dessus, revendications y compris, et le cas échéant telle que modifiée par l'amendment cité plus haut.	I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.
Je reconnais le devoir de divulguer l'information qui est en rapport avec l'examen de cette demande selon Titre 37 du Code des Reglements Fédéraux §1.56	I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, §1.56.

### French Language Declaration

Je revendiqué par le présent acte le bénéfice de priorité étrangère selon Titre 35, du Code des Etats-Unis, §119 de toute demande de brevet ou d'attestation d'inventeur énumérée ci-après, et j'ai identifié également ci-après toute demande étrangère de brevet ou d'attestation d'inventeur ayant une date de dépôt antérieure à celle de la demande pour laquelle la priorité est revendiquée.

I hereby claim foreign pnority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

Prior foreign applica  Demande(s) de brev		dans un autre nave:			priorité
98.06627 (Number) (Numéro)		9.8 05 (Day/Month/Yea (Jour/Mois/Anne	ar Filed)	reven X Yes Oui	No No Non
(Number) (Numéro)	(Country) (Pays)	(Day/Month/Yea (Jour/Mois/Anné		Yes Qui	Non
(Number) (Numéro)	(Country) (Pays)	(Day/Month/Yea (Jour/Mois/Anné	r Filed) e de dépôt)	- Yes Oui	No Non
Je revendique par le du Code des Etats-Uricaines énumérée(s) de chacune des reveldivulgué dans la dema définie par le premier Etats-Unis, §112, je r mation pertinente sel Fédéraux, §1.56, to la date de dépôt de la de la demande, soit r	nis, §120 de touti- ci-après et, dans ndications de cet ande américaine r paragraphe de econnais le devo on Titre 37 du Coute information demande antérie	e(s) demande(s) amé- s la mesure où le sujet tte demande n'est pas antérieure, de la façon Titre 35 du Code des bir de divulguer l'infor- Code des Réglements qui se présente entre eure et la date de dépôt	I hereby claim the benefit unde §120 of any United States a insofar as the subject matter application is not disclosed in cation in the manner provided 35, United States Code, §11 disclose material information a Federal Regulations, §1.56 filling date of the prior applicational filling date of this	pplication(s) listed be of each of the claim the prior United Stat I by the first paragrap 2, I acknowledge the as defined in Title 37, which occurred beta ation and the nationa	elow and, ns of this tes appli- oh of Title e duty to , Code of ween the
PCT/FR99/01 (Application Sena (No. de Demar	al No.)	99.05.03 (Filing Date) (Date de Dépôt)	(Etat) (brevetée, pendante, abandonné)	(Status) (patented, pending abandoned)	 }.
(Application Seria (No. de Demar		(Filing Date) (Date de Dépôt)	(Etat) (brevetée, pendante, abandonnée)	(Status) (patented, pending abandoned)	<del></del>
Je déclare par le prés à ma connaissance, so faites à partir de rens tenues pour être vraie été faites en sachant q u autres actes de mê	ont vraies et que to leignements ou o les; de plus, toutes lue de fausses dé leme nature sont	outes les déclarations de suppositions, sont s ces declarations ont eclarations volontaires sanctionées par une	I hereby declare that all statem knowledge are true and that a mation and belief are believed these statements were made v false statements and the like so or imprisonment, or both, unde the United States Code and that	all statements made of the true; and furth with the knowledge that the made are punishable or Section 1001 of Tit	on infor- ther that at willful by fine tle 18 of

Page 2 of 3

issued thereon.

1001, du Titre 18 de Code des Etats-Unis et que de selles

déclarations délibérément fausses peuvent compromettre la

validité de la demande ou du brevet délivré.

may jeopardize the validity of the application or any patent

## French Language Declaration

POUVOIR: En tant qu'inventeur, je désigne l'(les) avocat(s) evou l'(les) agent(s) suivant(s) pour poursuivre la procédure de cette demande et traiter toute affaire la concernant supris Laurent des Brévets et de Marques (

Harold L. Stowell, Reg. 17,233 Edward J. Kondracki, Reg. 20,604 Dennis P. Clarke, Reg. 22,549 William L. Feeney, Reg. 29,918 John C. Kerins, Reg. 32,421 POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith. (list name and registration number)

Harold L. Stowell, Reg. 17,233 Edward J. Kondracki, Reg. 20,604 Dennis P. Clarke, Reg. 22,549 William L. Feeney, Reg. 29,918 John C. Kerins, Reg. 32,421

Adresser toure correspondance à:

KERKAM, STOWELL, KONDRACKI & CLARKE, P.C. 5203 Leesburg Pike, Suite 600 Falls Church, VA 22041

Adresser toute communication téléphonique à: (Nom) (Numéro de téléphone)

(703) 998-3302

Send Correspondence to:

KERKAM, STOWELL, KONDRACKI &-CLARKE, P.C. 5203 Leesburg Pike, Suite 600 Falls Church, VA 22041

Direct Telephone Calls to: (name and telephone number)

(703) 998-3302

Nom complet du seul ou premier inventeur	Full name of sole or first inventor	
REMERICO Maurice		
Signature de l'inventeur Date	Inventor's signature Date	
+3/12/99		
Domicile 117 rue Saint Joseph	Residence	
59166 BOUSBECQUE FRANCE		
Nationalité	Citizenship	
Française $ u$	′	
Adresse Postale	Post Office Address	
Nom complet du second co-inventeur, le cas echeant	Full name of second joint inventor, if any	
Signature de l'inventeur Date	Second Inventor's signature Date	
Domicile	Residence	
Nationalité	Citizenship	
(4210) tano		
	Post Office Address	
Adraeca Postala	Last Office Variess	
Adresse Postale	Pust Office Address	
Adresse Postale	Lost Office Variess	
Adresse Postale	Fost Office Address	

(Fournir les mêmes renseignements et la signature de tout co-inventeur supplémentaire.)

(Supply similar information and signature for third and subsequent joint inventors.)

Page 3 of 3

Patent and Trademark Office-U.S. DEPARTMENT OF COMMERCE

Form PTO-FB-235 (8-83)